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| EXAMINER | | | | |
| BLEVINS, JERRY M | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,637

Applicant(s)

JAASKELAINEN ET AL.

Examiner

JERRY BLEVINS

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,10-13,17,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3,4,7-9,14-16,18,21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of the species corresponding to claims 1-4 and 7-22 in the reply filed on July 22, 2008 is acknowledged.

Claims 5 and 6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 22, 2008.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For examination purposes, examiner interprets claim 19 to not require the limitations following the phrase.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 10-13, 17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,644,402 to Sharma et al.

Regarding claim 1, Sharma teaches a method of installing a double ended distributed sensing optical fiber assembly within a guide conduit (Figure 6), the method comprising: providing a distributed sensing optical fiber assembly having a first elongate section (424) with a first proximal end and a first distal end, and second elongate section (425) with a second proximal end and a second distal end; providing a nose section (420), which interconnects the first proximal end to the second proximal end such that light transmitted along the length of one section of fiber optical cable is transmitted via the nose section into the other section of fiber optical cable; inserting the nose section into the guide conduit such that the nose

section moves through the guide conduit ahead of the first elongate section and second elongate section (Figure 6); and connecting the first distal end and second distal end to a light transmission and receiving unit (430); wherein the nose section has an outer width which is less than 1 cm (column 2, lines 1-16) and the nose section, the first elongate section, and the second elongate section are formed from a single fiber optical cable which is bent into a U-shaped configuration in a region of the nose section and the fiber optical cable is stretched in the region of the nose section such that the fiber optical cable has a smaller width in the region of the nose section than in most other parts of the fiber optical cable (Figure 6).

Regarding claim 10, Sharma teaches that the nose section and at least a substantial part of the cables interconnected thereby are inserted into the guide conduit by pumping a fluid from one end towards another end of the guide conduit (column 4, line 59 – column 5, line 30).

Regarding claim 11, Sharma teaches that the conduit is installed within or in the vicinity of an elongate fluid transfer flow line (Figure 6 and column 4, line 59 – column 5, line 30).

Regarding claim 12, Sharma teaches that the flow line is an underground inflow region of an oil or gas production well (column 1, lines 13-49 and column 2, lines 33-58).

Regarding claim 13, Sharma teaches that the temperature or pressure of fluids flowing through at least part of an inflow region of the well are monitored by a distributive sensing fiber optical assembly and that the method is used to monitor and/or control the production of oil or gas (column 2, lines 1-16 and column 3, lines 18-43).

Regarding claim 17, Sharma teaches that the conduit has a substantially straight shape (Figure 6) and at a lower end, is equipped with a check valve, such that when the double ended

fiber and nose section are pumped into the conduit, the pump fluid is discharged from the conduit through the check valve (column 4, lines 10-33).

Regarding claim 20, Sharma teaches that the guide tube is formed by the casing of an oil or gas production well and that the assembly is strapped to the production tubing of the well or otherwise inserted into the well (column 1, lines 13-49 and column 2, lines 33-58)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,644,402 to Sharma et al.

Regarding claim 2, Sharma teaches the limitations of base claim 1. Sharma does not teach that the outer width of the nose section is less than 5 mm and that the internal width of the conduit is less than 10 mm. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the nose section of Sharma such that it has an outer width less than 5 mm and to modify the conduit of Sharma such that it has an internal width less than 10 mm, since these modifications would have involved a mere change in size of components. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). The motivation would have been to reduce the overall size of the assembly.

Allowable Subject Matter

Claims 3, 4, 7-9, 14-16, 18, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3 and 4, Sharma, individually or in combination with the prior art, fails to disclose or render obvious that the cable is heated when it is stretched and the bent section of the stretched cable is embedded in a nose-shaped body of material having a lower refractive index than that of the stretched cable embedded therein.

Regarding claims 7-9, Sharma, individually or in combination with the prior art, fails to disclose or render obvious that the light transmitting and receiving unit transmits light pulses or alternating or simultaneous pulsed and continuous waves into the first and second distal ends distributed sensing data from light backscattered from different points along the length of the first and second elongate sections to the distal end into which the light pulses are transmitted.

Regarding claims 14, 15, and 19, Sharma individually or in combination with the prior art, fails to disclose or render obvious that parts of the elongate sections are arranged side-by-side in a protective stainless steel tube having an outer diameter from 1 to 3 mm, the tube connected to a protective end cap in which the nose section is arranged and in which the tube is inserted into the conduit.

Regarding claim 16, Sharma, individually or in combination with the prior art, fails to disclose or render obvious that at substantial parts of the first and second elongate sections are arranged side-by-side in a jacketed flexible protective tube which is provided with a molded end cap in which the nose section is arranged.

Regarding claim 18, Sharma, individually or in combination with the prior art, fails to disclose or render obvious that the assembly is inserted into the guide conduit which extends into a sub-sea well by means of a remotely operated sub-sea pod which is removably mounted on a sub-sea wellhead.

Regarding claims 21 and 22, Sharma, individually or in combination with the prior art, fails to disclose or render obvious that the assembly is configured as a pressure sensor wherein each section of cable passes through a reference region in which the cable is exposed to a known hydraulic pressure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY BLEVINS whose telephone number is (571)272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry M Blevins/
Patent Examiner, Art Unit 2883

/Frank G Font/
Supervisory Patent Examiner, Art Unit 2883

FGF/jmb
11/17/2008